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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/048,126	03/26/2002	Claude Bourgeois	GLN-009US	2839

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EXAMINER

KRISHNAN, SUMATI

ART UNIT PAPER NUMBER

2875

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/048,126

Applicant(s)

BOURGEOIS ET AL.

Examiner

Sumati Krishnan

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 states “switching device according to claim 2, characterized in that *it* also comprises, associated with each electrode, at least one stopper serving as a stop for the beam and for the purpose of preventing *it* coming into contact with said beam.” It is unclear as to what the second “it” refers to, as it cannot be the switching device, (which is what the first “it” refers to) considering the beam is part of the switching device.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3 and 14 are rejected under 35 U.S.C. 102(c) as being anticipated by Wu (US 6463189).

Regarding claims 1-3, Wu discloses a switching device (see for example, figure 2a, element 150) comprising at least one cell made up of a moving structure (cantilever arm and

integral screen 103 and 106 respectively), capable of moving between two end positions (see figures 2a and 2b respectively) and actuating electrodes (101b and 101c, figure 1c) for subjecting this structure to forces of attraction to control its movement, characterized in that said electrodes are located only on each side of the moving structure in such a way as to follow its exact shape when it is in one of its two end positions. See figure 1c.

Regarding claim 14, Wu discloses a T-shaped cross section of the beam due to elements 108a and 108b.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Mignardi et al (US 5226099).

Regarding claim 1, Mignardi discloses a switching device comprising at least one cell made up of a moving structure (elements 32 and 40, see figure 6), capable of moving between two end positions, and actuating electrodes (38a and 38b) for subjecting this structure to forces of attraction to control its movement, characterized in that said electrodes are located on each side of the moving structure in such a way as to follow its exact shape when it is in one of its two end positions. See figure 6.

Regarding claim 9, Mignardi's switching device is made on a substrate, see column 1 line 67.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (US 6463189) in view of Chertkow (US 6535663).

Regarding claim 4, Wu discloses at least one stopper (110a and 110b) serving as a stop for the beam. Although, it is not clear what the remaining claim language specifically refers to, examiner is citing Chertkow who discloses the well known concept of stiction, where the electrodes on the side of the cantilever beam are protected from the beam by stoppers (or “legs” 128 and 432). See column 15 lines 19-24.

Regarding claim 5, Wu discloses the stopper 110a located beyond the screen 106.

Regarding claim 6, Wu discloses a plurality of stoppers 110a and 110b which are distributed along the length of the beam. Although Wu does not disclose these stoppers at various different positions along the length of the beam, the stoppers that are disclosed are positioned along the length of the beam, therefore satisfying the claim language.

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (US 6463189) in view of Chertkow (US 6535663) further in view of Jin et al (US 6154590).

Wu and Chertkow discloses the switch according to claim 6, but do not discloses the side walls of the moving structure, stoppers and electrodes being coating with a conductive diamond layer. However, Jin discloses a moving body and posts or stoppers coated with a diamond layer in order to reduce friction related problems. Therefore, it would have been obvious to one of ordinary skill in the art to have coated Wu's moving body, stoppers and electrodes with a diamond layer in order to reduce friction related problems since the moving body and the stoppers are in contact with each other, and to further prevent any stiction related effects from occurring through any accidental contact that could occur between the electrodes and the moving body, as explained in Chertkow.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mignardi et al (US 5226099). Mignardi discloses the switching device located on a substrate, but does not specifically disclose the substrate being transparent, however, it is notoriously old and well known in the art for the substrate on which a switching element is located to made out of a common transparent material such as ITO. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used ITO as the material for the substrate in Mignardi.

7. Claims 11, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mignardi et al (US 5226099) in view of Yonekubo (US 6591037).

Mignardi discloses the switching element located on a substrate, with an aperture 44 that the shutter 40 covers when the switch is in the "on" position, but does not disclose that the aperture has a cone shape. However, Yonckubo discloses light beams 11 coming through a cone shaped aperture 44a. It is asserted that since the applicant has not provided any reason or motivation for providing a cone shaped aperture in the substrate, applicants invention would perform equally well with a cone shaped aperture or an aperture as Mignard's shutter 40 is disclosed as covering. Therefore, it would have been obvious to one of ordinary skill in the art to have provided a cone shaped aperture in the invention of Mignardi since this is a merely a matter of design choice.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al (US 6463189).

Wu discloses the switching element used in a circuit, but does not disclose a fuse being connected. However, it is old and well known in the art that short circuiting is a problem and that connected a fuse between connections easily solves this problem. Thus, it would have been obvious to one of ordinary skill in the art to provide Wu's switching system with a fuse in order to avoid the problem of short circuiting.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumati Krishnan whose telephone number is 703-305-7906. The examiner can normally be reached on 8:00 am - 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 703-305-4939. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

SK

A handwritten signature in black ink, appearing to read 'S. Krishnan', is written over a faint, circular official stamp. The signature is fluid and cursive.